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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/992,663	11/14/2001	Steven D. Swaine	091-0126	8498

7590 12/15/2003

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EXAMINER

SAADAT, CAMERON

ART UNIT	PAPER NUMBER
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3713

DATE MAILED: 12/15/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/992,663

Applicant(s)

SWAINE ET AL.

Examiner

Cameron Saadat

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/14/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3-7, 9-12, 14-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-7, 9-12, 14-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

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DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/14/03 has been entered. Claims 1, 3-7,9-12, 14-22 are pending in this Application. Claims 2, 8, and 13 have been canceled.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 3-7,9-12, 14-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lippert et al. (U.S. Patent Application Publication 2002/0024495 A1; hereinafter Lippert) in view of Task et al. (US Statutory Invention Registration H1599; hereinafter Task).

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Regarding claims 1, 7, 12, and 15, Lippert discloses a training system for teaching the use of night vision goggles comprising: a pair of simulated night vision goggles 72; an image generation system 78 generating 3 separate high fidelity, infrared, computer radiated terrain images; wherein the image generation system includes a graphics generator, and wherein the image generation system 78 is separate from the pair of simulated night vision goggles providing off-helmet image generation (See ¶ 35; Fig. 9); and a second system in communication with the image generation system for optically combining the output of three video signals (¶ 65) and providing irradiance to an image intensifier tube 96 to simulate viewing of bright lights (¶ 14).

Lippert does not explicitly disclose that the three video signals are *12-bit* (as per claims 7 and 12) and does not specifically disclose *weighted neutral density filters* (as per claims 1, 7, 12, and 15). However, it is the examiner's position that increasing the bit length of a video signal, and specifically providing a *12-bit* video signal is old and well known in the art for providing an enhanced, natural image; and furthermore, providing weighted neutral density filters is notoriously old and well known in the art for increasing the dynamic range of R-G-B signals of night vision goggles to produce relatively bright to dark images. Therefore, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the video signals described in Lippert, by utilizing 12-bit video signals to provide an enhanced, natural image; and to further modify the night vision goggles, by providing a neutral density filter for increasing the dynamic range of R-G-B signals to produce relatively bright to dark images.

Lippert further discloses scan conversion means 84, yet does not explicitly disclose a scan conversion means *at the output of an image intensifier tube including a video camera* (as per claims 1, 7, 12, and 15). However, Task discloses a night vision surveillance system comprising video cameras 105 and 124 optically coupled to the output of image intensifier tubes

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103 and 120 (See Fig. 1). Hence, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the night vision goggles described in Lippert, by scan converting the output of an image intensifier tube by optically coupling a video camera, in light of the teachings of Task, in order to provide color encoding for increasing the speed and accuracy of object detection and recognition, and furthermore to provide a recording of the images, viewed through the night vision goggles, for evaluation purposes (Col.5, line 54- Col. 6, line 24; Col. 8, lines 5-14).

Regarding claims 3, 9 and 14, Lippert discloses a training system including a system wherein a resultant image is projected onto a display screen 1156 using a high-resolution camera (See Fig. 12).

Regarding claims 4,10, 12, and 16, Lippert discloses a system wherein the communication system includes a system for allocating three video signals at different intensities (P. 6, Paragraph 0071). Lippert does not explicitly describe the intensities as *low, medium, and high*. However, it is the examiner's position that it is notoriously old and well known for night vision devices to include a system for allocating three video signals representing scene elements of low, medium, and high light intensity. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the video signals described in Lippert, by allocating the signals to represent elements of low, medium, and high light intensity in order to provide a large dynamic range of bright to dark images to provide an accurate simulation of the night vision goggles.

Regarding claims 5, 11, 12, 17, and 20, Lippert discloses a training system and method including a head tracking system for providing a stable image regardless of the simulated night vision goggle line of sight (P. 4, Paragraphs 0051, 0052).

Regarding claims 6, 12, 18-19, and 21-22, Lippert discloses an embodiment wherein the image generation system 78 is contained within the goggles, and wherein the system is provided in a light tight package within the simulated goggles to maintain contrast (P. 1, Paragraph 0014). However, in the embodiment wherein Lippert discloses the image generation system 78 as being separate from the goggles (See ¶ 35; Fig. 9), it is not explicitly stated that the image generation system is provided in a light tight package. However, it would have been obvious to an artisan to modify the off-helmet image generation system embodiment by providing a light tight packaging for the image generation system to maintain contrast as stated in Lippert.

Response to Arguments

Applicant's arguments filed 10/14/03 have been fully considered but they are not persuasive.

Applicant asserts that Lippert does not disclose the use of three separate infrared computer radiated terrain images; does not disclose the use of a high-resolution video camera to display a simulated image; and does not disclose off-helmet image generation. However, Lippert clearly suggests the use of three or four infrared sources for image generation (Fig. 12, ref. 1160, ¶71); and off-helmet image generation (See ¶ 35; Fig. 9). Furthermore, the combination of Lippert and Task collectively suggests to one of ordinary skill in the art to provide scan conversion through a video camera, in order to provide color encoding for increasing the speed and accuracy of object detection and recognition, and furthermore to provide a recording of the images, viewed through the night vision goggles, for evaluation purposes (Col.5, line 54-Col. 6, line 24; Col. 8, lines 5-14).

Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cameron Saadat whose telephone number is 703-305-5490. The examiner can normally be reached on M-F 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Teresa J Walberg can be reached on 703-308-1327. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1148.

CS


Teresa Walberg
Supervisory Patent Examiner
Group 3700